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Public Health
Seattle & King County

Bleach Solution Preparation Procedure

Equipment Needed:

- Eye Protection
- Gloves
- Apron
- Measuring spoons and cups
- A funnel
- Gallon-sized pitcher
- A well ventilated area!
- Material Safety Data Sheet (MSDS) for safety information

1. Empty all bleach bottles at the end of the day. Wash, rinse and sanitize the outside of the spray bottles.

2. Gather bottles in separate bins, one for the Body Fluid solution and one for the General Purpose solution. (These bottles should not touch in order to avoid cross-contamination).

3. If you have a sink for cleaning you may use it for preparation of both solutions. If not, the Body Fluid solution must be prepared in a bathroom and never prepared in the kitchen or in a "clean sink". And General Purpose solutions must be made in a hand washing or clean sink. Be sure the area is well ventilated. People with respiratory or cardiac health problems should not prepare bleach.

4. It is required by Labor and Industries that workers wear the recommended protective equipment. For bleach this includes eye goggles, gloves, and an apron. Using the appropriate measuring tools to measure the bleach into a gallon size pitcher.

5. Measurements for bleach concentrations for Body Fluid, General purpose, Bathroom and Food Surfaces, Kitchen, Classroom is located on the "Guidelines for Mixing Bleach" chart.

6. Fill classroom bottles from the gallon pitcher.

7. Date classroom bottles. Be sure bottles are labeled with the class name so that they will be returned to the classroom they came from.

8. Safely store concentrated bleach out of reach of children, away from food and incompatible chemicals (such as ammonia).

9. Return classroom bottles (also out of reach of children).

Guidelines for Mixing Bleach

Bleach Concentration of 8.25%

Solution for ***disinfecting***	**Amount of Bleach**	**Amount of Water**	**Contact time**
Body fluids, General Areas, Bathrooms and Diapering	**1 ½ teaspoons**	1 Quart	2 minutes
	2 Tablespoons	1 Gallon	

Bleach Concentration of 5.25% - 6.25%

Solution for ***disinfecting***	**Amount of Bleach**	**Amount of Water**	**Contact time**
Body fluids, General Areas, Bathrooms and Diapering	**2 ¼ teaspoons**	1 Quart	2 minutes
	3 Tablespoons	1 Gallon	

Bleach Concentration of 2.75%

Solution for ***disinfecting***	**Amount of Bleach**	**Amount of Water**	**Contact time**
Body fluids, General Areas, Bathrooms and Diapering	**1 ½ Tablespoons**	1 Quart	2 minutes
	1/3 Cup *plus* 1 Tablespoon	1 Gallon	

Sanitizing with 8.25 %, 5.25%-6.25% or 2.75%

Solution for **sanitizing** in Food surfaces, Kitchen and Classrooms	**Amount of Bleach**	**Amount of Water**	**Contact time**
8.25%	**1/4 teaspoon**	1 quart	2 minutes
	1 teaspoon	1 gallon	2 minutes
5.25-6.25%	**½ teaspoon**	1 quart	2 minutes
	2 teaspoons	1 gallon	2 minutes
2.75%	**1 teaspoon**	1 quart	2 minutes
	1 Tablespoon	1 gallon	2 minutes

(Adapted from WA DOH Guidelines for Mixing Bleach Solutions, 9/2014)

Definitions:

- **Sanitizers are used to reduce germs from surfaces but not totally get rid of them. Sanitizers reduce the germs from surfaces to levels that are considered safe.**
- **Disinfectants are chemical products that destroy or inactivate germs and prevent them from growing. Disinfectants are regulated by the U.S. Environmental Protection Agency (EPA).**

Material Safety Data Sheet

HMIS **Health – 3** **Flammability – 0** **Reactivity – 1** **Personal Protection – Yes**

I Chemical Identification	**Manufacturer**	**Emergency Procedure**
Name: Description: 8.25% Sodium Hypochlorite CAS No. 7681-52-9 **Other Designations:** Household Bleach	Online Packaging, Inc. 4311 Plover Road Plover, WI 54467 (715) 344-4861 Mon to Fri, 8:00 a.m. to 5:00 p.m. CST	Call doctor/hospital emergency room or the Local Poison Control Center. Have the product container or label with you when calling a Poison Control Center or doctor, or going for treatment.

II Health Hazard Data

Threshold Limit Value: Not Established (OSHA 29 CRF 1910.Z-1-A) Not Established (ACGIH 1988-89) – Recommended Exposure Limit for Chlorine be used as a guide: 0.5 PPM (OSHA 29 CFR 1910.Z-1-A): C 1 PPM (AACGIH). Effects of Overexposure: Eye Contact Corrosive – Causes severe burns and destruction of tissues. Skin Contact: Corrosive to skin. Inhalation: Mists will burn mucous membranes. Ingestion: Ingestion can cause very serious damage to the mouth, esophagus, stomach, and other tissues with which contact is made, and may be fatal. Emergency and First Aid Procedures – **Eye Contact:** Immediately flush eyes with plenty of water for at least 15 minutes. Call a physician immediately. **Skin contact:** Flush area with water while removing contaminated clothing and shoes. Follow by washing with soap and water. If irritation persist, get medical attention. **Ingestion:** If conscious, drink a quart of water. Do not induce vomiting. Call a physician immediately. If unconscious or in convulsions, take immediately to a hospital or a physician. **Inhalation:** Remove victim to fresh air, if not breathing, give artificial respiration, preferably mouth – to – mouth. If breathing is difficult, give oxygen. Call a Physician. Note: This product does not contain greater than 0.1% of the known or potential carcinogens listed in NTP, IRAC or OSHA.

III Hazardous Ingredients

TLV Level - * 0.5 PPM PEL Level - * 0.5 PPM Note: Exposure Limits for chlorine given.

IV Special Protection and Precaution

Respiratory Protection: If vapors or mists are present, wear NIOSH – Approved respirator.
Ventilation: Maintain adequate ventilation. Do not use in closed or confined space. Avoid mist formation.
Protective Gloves: Rubber (latex). Polyvinyl chloride. Neoprene.
Eye Protection: Chemical safety goggles. Safety glasses. Face shield. Do not wear contact lenses.
Other Protective Equipment: Eye - Wash station. Safety shower. Rubber apron. Chemical safety shoes. Protective clothing.
Precaution for Handling and Storage: Corrosive material. Store in cool, well-ventilated area away form all sources of ignition and out of direct sunlight.

V Transportation and Regulatory Data

Containers of 1 Gallon or less – DOT Proper Shipping Name: Consumer Commodity ORM – D
Containers over 1 Gallon – DOT Proper Shipping Name: UN1791, Hypochlorite Solution, 8, III
US Clean Water Act Reportable Quantity RQ 100 lbs. (45.4 kilos)

VI Spill or Leak Procedures

Actions to be taken: Corrosive Material. Evacuate unprotected personnel from area. Maintain adequate ventilation. Use proper safety equipment. Contain spill, place into drums for proper disposal. Flush remaining area with water to remove trace residue and dispose of properly. Avoid direct discharge to sewers and surface waters. Notify authorities if entry occurs. Waste Disposal Method: Observe all local, state, and federal regulations. If approved, flush to sewer with large quantities of water. DO NOT pressurize, cut, weld, braze, solder, drill, grind or expose empty containers to heat, flame, sparks or other sources of ignition.

VII Reactivity Data

Stability: Unstable Conditions to Avoid: Avoid temperatures above 70 Degrees Fahrenheit.
Incompatibility: Ammonia. Organic Materials. Acids. Reacts with acids to release poisonous Chlorine Gas.
Hazardous Decomposition Products: Chlorine – containing gasses can be produced.
Hazardous Polymerization: Will not occur.

VIII Fire and Explosion Data

Flash Point – None. Flammable Limits LEL: N.A., UEL: N.A.
Extinguishing Media: For fires in area use appropriate media. Examples: Water spray. Dry Chemical. Carbon Dioxide. Alcohol Foam.
Special procedures: Evacuate area of unprotected personnel. Wear protective clothing including a NIOSH – Approved self – contained breathing apparatus. Cool the exposed containers with water spray.
Unusual Hazards: Chlorine containing gases can be produced.

IX Physical Data

Boiling Point (Deg F): Not Established
Freezing Point(Deg F): 13.0
Vapor Pressure (MM HG): Not Established
Solubility in Water: Complete
Specific Gravity: 1.122
PH: Approximately 12
% Volatile by Volume: 100%
Evaporation Rate (N.A.): N.A.
Appearance and Odor: Clear, Yellow Liquid, Chlorine Odor.

Data Supplied is For Use Only With Occupational Safety and Health Date Prepared: 03/26/2012